IMMIGRATION-RELATED STRESS AND RESILIENCE: MEASURING DIFFERENCES IN LATINO COLLEGE STUDENTS BASED ON DOCUMENTATION STATUS AND IMMIGRANT STATUS

A Dissertation

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ABSTRACT

Latino immigrant college students, especially those with undocumented status, tend to experience increased number and levels of risk factors related to physical health, academic, and mental health outcomes yet have better mental health, overall health, and academic performance compared to US born Latinos and non-Hispanic White Americans. These counter-intuitive results have been dubbed the immigrant paradox. Some studies suggest that a unique source of stress for immigrant college students may be the stress related to the immigration process; however, other research suggests that immigration-related stress can be present among many Latinos, regardless of immigrant or documentation status. The purpose of the current study is twofold; 1) To determine whether risk and protective factors can accurately differentiate students based on immigrant status (immigrant and US born Latinos) and documentation status (stable and unstable status), and 2) To examine whether grit, socioeconomic status, bicultural identity, and problem-solving orientation significantly predict level of immigration-related stress. Rather than focusing on undocumented status exclusively, this study compares Latino college students with unstable status (i.e., status that does not guarantee permanent stay in the US) and stable status (i.e., status that is considered legally long-term). Results indicate that immigration-related stress, grit, and college GPA reliably and at a statistically significant level categorized group membership based on immigrant status (immigrant or US-born) and documentation status (stable or unstable), and the variables more accurately categorized group membership based on documentation status.

Finally, immigration-related stress was statistically and significantly predicted by lower social status and higher cultural conflict when controlling for legal documentation status.

DEDICATION

I dedicate this dissertation to my family who has supported me every step of the way. To my husband, Cody, for his patience, humor, and for being my biggest cheerleader. To my father, Luis, who has pushed me harder than anyone to be my best. To my mother, Gaby, for always making me feel like I can do anything. To my sister, Andrea, for inspiring me to enjoy life to its fullest.

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Latino youth experience daily stressors, discrimination, and barriers to education, careers, and other achievements throughout their development. Such struggles contribute to the low representation of Latinos in higher education (Pyne & Means, 2013). Rather than focusing on explaining the reason for such struggles, some researchers have started to incorporate a positive psychology and resiliency approach when studying Latino youth, often focusing on young Latinos in high school or college who have been successful in education. Most recently, scholars who have conducted research within the Latino community have begun to focus on the experiences of immigrant students, specifically undocumented young adults and adolescents who entered the country as children to better understand the impact of immigration and undocumented status on their development (Abrego, 2006; Abrego & Gonzales, 2010; Ceballo, 2004; Contreras, 2009; Drachman, 2006; Enriquez, 2011; Gomez & Hawkins, 2012; Gonzales, 2010, 2011; Huber & Malagon, 2007; Pérez, Cortés, Ramos, & Coronado, 2010; Suarez-Orozco, Yoshikawa, Teranishi, & Suarez-Orozco, 2011).

Latino immigrants who attend college may have a different experience and route to college than their native born counterparts. For example, research has found that adult US born Latinos have a college attendance rate of 42% while adult Latino immigrants have an attendance rate of 25% (Rooney, 2002 as cited in Hernandez & Lopez, 2004). It may be that Latino immigrants are experiencing a more tenuous road to college, thus the lower college attendance rates, and that those Latino immigrants who

attend college may be uniquely resilient given that they are able to remain in college despite low representation. For example, Hao and Ma (2012) stated:

> Postsecondary education is not free and is embedded in higher education institutions, presenting potentially greater barriers than secondary education to low-SES youth, particularly of racial–ethnic minorities. The attributes associated with the self-selected immigrant parents—high motivations, upward mobile orientation, and huge hopes for their children, coupled with the agency of the children in navigating the higher learning institutions— could potentially help overcome these barriers. (p.280)

In this study, it was found that immigrant college students from diverse racial and ethnic backgrounds fared better in college attendance and Bachelor's degree attainment than their third generation counterparts when factors such as SES and parental education were controlled (Hao & Ma, 2012). It is important to understand the sources of resiliency for Latino college students while considering documentation and immigrant status. Such an approach can lead to understanding how the intersection of documentation and immigrant status relate to resiliency via risk and protective factors.

To measure the effects of documentation status, this study focuses on stability of status because the literature suggests that concerns about legal documentation and legal limitations results in an added burden that those with legal permanent status do not have or experience directly (Gonzales, 2010, 2011, 2012). In the current study, documentation status is categorized into stable and unstable status. These categories were created for the purposes of the current study and include 1) individuals who are not

highly regulated by the government and who have a long-term right to live in the country (stable status), and 2) individuals who are highly regulated by the government, who have few rights, and either do not have a right or have only a limited right to live in the country (unstable status). These categories were created based on suggestions by Gonzales (2010, 2011, & 2012) that frequent encounters with the legal system adds stress. In other words, individuals who have to frequently face legal barriers, government inspection, or actively hide from such regulation because of their documentation status will likely experience more stress than those individuals whose documentation status is not subject to this type of scrutiny. Stable status refers to Latinos who have legal residency in the US on a permanent and guaranteed to almost-guaranteed basis, and includes native-born US citizens, naturalized US citizens, and permanent residents. While permanent residents hold green cards that expire every 10 years, they do not need to reapply for legal residence in the US, rather they simply have to request a new green card every 10 years (U.S. Citizenship and Immigration Services, 2011). Unstable status refers to Latinos who are not considered legal residents of the US and either have no legal rights for residency in the US or have temporary rights that are highly regulated, limited and require frequent renewal. For example, many visa holders do not have the right to work, have limited options in the types of jobs they can hold, can easily lose their work permits, and must immediately report any change of residence to the government (U.S. Citizenship and Immigration Services, 2011). This includes undocumented Latinos (e.g., immigrants who have never had legal documentation in the U.S., Latinos with expired documentation (e.g., expired tourist or student visa), and

temporary non-immigrant visa holders (e.g., tourist or student visa). Unstable status also includes individuals with Deferred Action for Childhood Arrival (DACA) status. DACA refers to temporary US stay that defers deportation of undocumented students entering the country prior to their 16th birthday and who will complete or have completed at least 2 years of post-secondary education or 2 years of military service and requires renewal every 2 years (Singer & Svajlenka, 2013). This study focuses on stability of status due to research suggesting that having to worry about legal documentation concerns, such as renewal of visas, and legal limitations, including employment, financial aid, or driving limitations, results in an added burden that those with legal permanent status do not have or experience directly (Gonzales, 2010, 2011, 2012). By focusing on stability of status, the experiences of Latino students with unstable status who are not strictly undocumented can be captured. The previous research examining documentation status has focused solely on undocumented status, which may miss concerns experienced by those who hold other forms of unstable status. This is important because their frequent encounters with legal barriers and legal residency concerns can be a source of stress.

The study also focuses on immigrant status as separate from documentation status. Immigrant status is broken down into immigrant and US born status. Immigrants include individuals born outside of the US and can include Latinos with both stable and unstable status. US born Latinos are native-born US citizens and by definition only include Latinos with stable documentation status. This breakdown is based on the immigrant paradox that suggests immigrants tend to have better physical health, mental health, and educational outcomes than native-born individuals from similarly

disadvantaged backgrounds (Crosnoe, 2012; Hernandez, Denton, Macartney, & Blanchard; 2012). While evidence for the immigrant paradox, a term used to refer to broad research findings that suggest immigrants tend to have better physical health, mental health, and educational outcomes than nonimmigrant individuals from similarly disadvantaged backgrounds (Crosnoe, 2012; Hernandez, Denton, Macartney, & Blanchard, 2012), has been found in some children of immigrants (i.e., 2nd generation native born Latinos), the findings supporting an immigrant paradox in 2nd generation Latinos are not as consistent as those found with first generation Latinos (Hernandez et al., 2012). For example, while delinquency is nearly always found to be lower among Latino immigrants when compared to third generation Latinos or other racial/ethnic groups, these findings are less consistent in research studies that compare second generation Latinos with third generation Latinos and other racial/ethnic groups (Hernandez et al., 2012). Therefore, all native born Latinos were grouped together, regardless of generational status. This study is focused on the resiliency of Latino college students, and on determining if increased exposure, both to protective and risk factors, makes Latino college students with unstable status or immigrant status more resilient than their Latino college student counterparts with stable status or US born status. In addition, this study is focused on the resiliency factors that may lead to a better ability to cope with the stress associated with the immigration process.

Undocumented Latino students face a number of stressors related to their documentation status such as mixed messages of acceptance into the host society (i.e., inclusion in public school system) and messages of rejection from the host society (i.e.,

denial of in-state tuition in college), experiencing the consequences of undocumented immigration or status that was out of their control, and added discrimination because of being undocumented (Ellis & Chen, 2013; Morales, Herrera, & Murry, 2009). Students' fear of deportation can limit their communication with other peers and faculty in postsecondary institutions (Contreras, 2009). Undocumented young adults often discussed not asking for help and resources because of fear of deportation and feelings of shame (Diaz-Strong & Meiners, 2007), which can have negative consequences on their academic success. The fear of being personally discovered or the discovery of undocumented family members often leads to feelings of isolation (Contreras, 2009). Latino students with stable documentation status may also experience immigration-related stress for a number of factors, including unstable documentation status of family members or perceived discrimination when a member of the host culture ascribes undocumented status to an individual because of external features (Hall & Soli, 2010; Potochnick & Perreira, 2010; Romero, 2008).

Latino college students may often experience distress from discrimination, and those from mixed status families or with personal unstable status may experience daily immigration-related stress. It is currently unclear if stress related to immigration fears and perception of immigration-related problems, is present for US born Latinos and immigrants with stable status because it has not been directly measured before. As documentation status is a hidden status that can be assumed by others because of Latino stereotypes, students with stable status may perceive immigration-related discrimination because of the assumptions of others. It may be the case that immigration-related stress

is present to some degree for immigrants with stable status and US born Latinos, but is present to a greater degree in immigrants with unstable status. .

Immigration-Related Stress

***Unstable status*.** Stressors related to unstable status can result in increased stress that affects mental health outcomes and quality of life. These stressors include experiences of poverty, having a minority ethnic status, and experiences as an individual with unstable status living in the U.S. Few studies have focused on the adverse experiences of being an undocumented Latino college student, and even fewer studies have explored the direct link between these experiences and mental health (Gonzales, Suarez-Orozco, & Dedios-Sanguineti, 2013). In addition, studies focusing on the undocumented experience do not include other types of unstable status resulting in a lack of understanding of the experiences of these individuals. Given that their encounter and fear of the legal system in the U.S. is similar for Latinos with unstable status, the research on experiences of being undocumented may be generalizable to other types of unstable status. Among the limited research, interviews with undocumented college students revealed they experience many averse events such as identity formation disruption because of legal barriers encountered, negative societal messages, experiences of disempowerment, uncertainty, isolation, and chronic fear of deportation (Gonzales et al., 2013). Many of these experiences can lead to adverse mental health outcomes.

There has been some documentation of the effect of unstable status and migration on the anxiety and depression levels of Latinos. Adolescents with undocumented status and those from families with mixed documentation status

(immediate family members with individuals possessing both stable and unstable status) were at greater risk for anxiety (Potochnick & Perreira, 2010). Concerns over deportation were related to emotional distress including depression, anxiety, and anger (Cavazos-Rehg, Zayas, & Spitznagel, 2007). In a study comparing the health outcomes of undocumented Latino immigrants, documented Latino immigrants, and US born Latinos, it was found that undocumented Latino immigrants had higher incidences of anxiety, adjustment disorder, substance abuse problems, and a higher level of psychosocial stressors (Pérez & Fortuna, 2005). In a review of the literature, undocumented status was determined to be a unique risk profile for adverse mental health outcomes, and was associated with shame/guilt, fear, vulnerability/exploitation, limited resources, and restricted mobility (Sullivan & Rehm, 2005). On the other hand, support from an important mentor or teacher has been related to decreased levels of depression and anxiety in children and adolescents who are either undocumented or from mixed-status families (Potochnick & Perreira, 2010) and more hope for the future (Gonzales et al., 2013) suggesting that positive experiences and resources may mitigate the effects of unstable status. As some of the studies above suggest, immigration-related stress is not limited to personal unstable status, but may also be present among Latinos with stable documentation and from mixed status families.

***Immigration-related stress among those with stable status*.** Some Latino college students with stable status come from mixed-status families. That is a family where one or more parents has unstable status and children from the family include children with both stable and unstable status (Fix & Zimmermann, 2001). It is estimated that 63% of

children born to undocumented immigrant parents are US citizens (Passel, 2006). This suggests that legal immigration concerns have the potential to affect Latinos who are US born. Documentation and visa issues affect those with stable documentation status when their family composition is of mixed-status (Hall & Soli, 2010). For example, adolescents with stable immigrant status were at significantly greater risk for anxiety and marginally greater risk for depression if they came from a family with mixed status (Potochnick & Perreira, 2010). It is suggested that fear for family members and fear of family separation due to deportation may contribute to increased experiences of anxiety and depression (Potochnick & Perreira, 2010). Environmental experiences may also contribute to increased mental health issues. For example, US Immigration and Customs Enforcement deportation raids in three separate confidential locations resulted in the removal of at least one parent from a family home, and 66% of the children in these homes were US citizens (Capps, Castaneda, Chaudry, & Santos, 2007). Previous research suggests that parental undocumented status affects US citizen children from a very early age and can have long-term effects on their mental health and educational development (Yoshikawa & Kalil, 2011). These findings suggest that immigration-related issues have the potential to affect all Latinos, regardless of documentation status.

In addition, documentation investigations to confirm legal status in the US can potentially affect Latinos regardless of their documentation status. These laws allow for legal racial and ethnic profiling in which certain physical characteristics, skin color, language used, indicators of poverty, style of dress, and speaking English with an accent could be used as probable cause for law enforcement to inspect an individual for proper

documentation status (Romero, 2008). Romero (2008) documents that a citizenship inspection in Arizona targeted Latino families with stable and unstable status, and placed an undue hardship on families and individuals with particular physical characteristics, of lower SES, and who outwardly appear less acculturated. While fear of deportation tends to be higher among undocumented immigrants, Latinos with documentation also can experience deportation fears (Arbona et al., 2010). In this study, one-third of documented Latino immigrants experienced fear of deportation (Arbona et al., 2010). In addition, experiencing immigration hardships was related to increased extra-familial acculturative stress regardless of documentation status (Arbona et al., 2010). While immigration-related stress may be higher for immigrants, especially those with unstable documentation status, the research presented above suggests that US born Latinos also encounter immigration-related stress either through concern for family members or discrimination by others. Documentation status is a hidden identity, and discrimination based on documentation status may cause distress to many Latinos regardless of immigrant or documentation status because of stereotyping of Latinos by members of the majority culture.

Documentation Status in the US

Unstable immigrant status is defined as immigrant status that does not guarantee a long-term stay in the host country and is related to more legal barriers and limitations. Undocumented youth are the most commonly measured group of students with unstable documentation status, but the group includes both Deferred Action for Childhood Arrival (DACA) protection holders (a recent legal category that previously qualified as

undocumented) and students with temporary non-immigrant visas who have the intention to stay in the host country. The literature will focus on the experiences of undocumented youth due to the limited information available for DACA holders given its recent emergence as a status and temporary non-immigrant visa holders.

Undocumented college students. For many undocumented students, the last two years of high school is their first encounter with the full extent of their legal limitations (Gonzales, 2011). This may be the first time they experience legal exclusions, such as being barred from obtaining a driver's license, denial from certain summer jobs or internships, and an inability to fill out financial aid applications (Gonzales, 2011). Many students report feeling lied to, changes in emotional well-being, self-view, and feeling fear or stigmatized for the first time during this discovery period (Gonzales, 2011). Some may decrease their educational aspirations because of beliefs that a bachelor's degree will be unobtainable because of their legal limitations. Latino high school students anticipating immigration problems were less likely to pursue postsecondary plans than students who did not anticipate future immigration problems (McWhirter, Ramos, & Medina, 2013). In addition, witnessing other undocumented family members trapped in menial jobs despite an education may further deter undocumented students from pursuing higher education (Abrego, 2006).

Undocumented students may be unmotivated to invest time and money into a college degree because of the increased cost of higher education for them, and the difficulty of using their degree after graduation. In a 2-year ethnographic study, several undocumented students cited existing legal barriers as reasons for not going to college

(Abrego, 2006). Upon graduating, undocumented students are barred from accessing careers within their degree unless they were able to regulate their status (Abrego & Gonzales, 2010). These individuals are aware of their limited opportunities upon graduation, and often express concern or anxiety regarding their future (Contreras, 2009; Diaz-Strong & Meiners, 2007). Previous research suggests that college students with unstable status are uniquely resilient and strong individuals because of increased structural barriers that students with unstable status face. Through legal mandates, some undocumented students have been able to regulate their status on a temporary basis.

Deferred action for childhood arrivals (DACA). In August of 2012, the Obama administration passed the Deferred Action for Childhood Arrivals (DACA) executive order (Batalova, Hooker, Capps, Bachmeier, & Cox, 2013; Singer & Svajlenka, 2013). This order defers deportation of undocumented students meeting requirements for residency under the Development, Relief, and Education for Alien Minors (DREAM) Act for a two-year period and will require frequent renewal until the DREAM Act passes (Singer & Svajlenka, 2013). In addition to delaying deportation, students who establish financial need can also gain employment benefits during that 2-year period (Gonzales, Terriquez, & Ruszczyk, 2014; Singer & Svajlenka, 2013). The bill is intended to buy students time while they wait for the enactment of the DREAM Act (Gonzales et al., 2014). The opportunity to regulate one's status through DACA is a legal win for undocumented youth in the US; however, they still face uncertainty in their future, and this opportunity has been documented to be limited to undocumented individuals with higher levels of education and access to more community resources (Gonzales et al.,

2014). Their status is unstable, requires frequent renewal, and is dependent on the passage of the DREAM Act (Batalova et al., 2013; Singer & Svajlenka, 2013). If the DREAM Act fails to pass, these students will lose their protected status. In addition, all DACA holders were undocumented immigrants up until very recently (Batalova et al., 2013; Gonzales et al., 2014; Singer & Svajlenka, 2013). They share many of the life experiences of undocumented college students, and their documentation status may still be a large part of their identity (Gonzales et al., 2014). It is important to understand the characteristics, developmental trajectories, and barriers encountered by Latino college students with unstable status, and compare these experiences to Latino college students with stable status to better understand the differences between the two groups.

Measurement of Immigration-Related Stress

The above described barriers and experiences encountered by students with unstable status, the fear that may be present due to concern of deportation of self or close others, and the perceived experiences of exclusion and discrimination because of other's perception of one's status are all concerns that were described by Latino's through interviews in previous qualitative studies (Abrego, 2006; Abrego & Gonzales, 2010; Arbona et al., 2010; Ceballo, 2004; Contreras, 2009; Drachman, 2006; Enriquez, 2011; Gomez & Hawkins, 2012; Gonzales, 2010, 2011, 2012; Hall & Soli, 2010; Huber & Malagon, 2007; Pérez et al., 2010; Potochnick & Perreira, 2010; Romero, 2008; Suarez-Orozco et al., 2011). Researchers have used information gathered from semi-structured interviews with their target population of interest to create scales that would measure a variable of interest, and this strategy has been used with Latinos as the population of

interest. For example, in creation of a Hispanic stress scale, Cervantes, Padilla, and Salgado de Snyder (1991) used semi-structured interviews for sampling procedures to develop the items in the scale. This methodology is suggested when developing scales intended to measure potentially stressful events (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978 as cited in Cervantes et al., 1991), and an adaptation of this was used to create a scale for this study that measures immigration-related stress. Few scales exist to measure the daily stressful events that Latinos experience, including stressors related to the immigration process. Cervantes Hispanic Stress Inventory – Immigrant (HSI-I) version focuses on the measures of these stressful events and includes concerns regarding the immigrant process (Cervantes et al., 1991). This version of the HSI has 75 items and 5 subscales. The five subscales include occupational, immigration, parental, marital, and cultural/family stress. The immigration stress subscale includes items that may be encountered by Latino immigrants on a daily basis, but does not include specific items related to Latinos in college or pursuing a higher education. An immigration-related stress scale was created to measure the unique experiences of Latinos in college.

Similar to the methodology used in the creations of the HIS-I, information regarding stressful events and experiences for Latino's were obtained by reviewing qualitative studies that conducted interviews with Latinos with unstable status in college or planning on attending college (Abrego, 2006; Abrego & Gonzales, 2010; Ceballo, 2004; Contreras, 2009; Drachman, 2006; Enriquez, 2011; Gomez & Hawkins, 2012; Gonzales, 2010, 2011, 2012; Huber & Malagon, 2007; Pérez et al., 2010; Suarez-Orozco et al., 2011). This provided insight into which stressors were most relevant to the Latino

college student population and therefore, should be included in the scale. In addition, research documenting how legal immigration concerns and the effects of discrimination by others leading to incorrect assumptions of the status of some Latinos was also reviewed to create items included in the scale , and to capture concerns for Latinos with stable status (Arbona et al., 2010; Hall & Soli, 2010; Potochnick & Perreira, 2010; Romero, 2008). Castillo, Perez, Castillo, and Ghosheh, 2010 used a similar strategy in developing a scale that measured mariansimo beliefs (i.e., Latina gender-based cultural expectations). The creation of the scale will be discussed further in the methodology section.

Immigrant Paradox

The immigrant paradox suggests that immigrants tend to have better academic outcomes, engage in less risky behaviors, and have better mental health and physical health outcomes than US born Latinos of a similar disadvantaged background (Alegria et al., 2008; Bacio, Mays, & Lau, 2013; Hill & Torres, 2010; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). This is referred to as paradoxical because outcomes with Latino immigrants differ from previous research with immigrants, primarily from European-origin, that suggest improved outcomes from the first to the later generations (Alba & Nee, 1997). The first wave of European immigrants showed improvements in physical health, mental health, and educational outcomes in future generations, while declines are seen with current non-European origin immigrants (Alba & Nee, 1997). For example, immigrant Latinos engage in less substance abuse (Bacio et al., 2013), have lower incidence of psychopathology (Alegria et al., 2008), and have a stronger value for

education and academic success (Hill & Torres, 2010). Research has found that the protective effect of recent immigration tends to decrease over time. For example, in a longitudinal study with immigrant adolescents from diverse racial backgrounds, academic outcomes, engagement, and motivation decreased over a 5-year period (Suarez-Orozco, Suarez-Orozco, Rhodes, Milburn, 2009). While there is no agreed upon explanation for these findings, there are many theories that attempt to explain the immigrant paradox.

One major aspect of studies focusing on the immigrant paradox is that the results are inconsistent and vary greatly across racial/ethnic immigrant groups, SES, comparison groups, variables of interest, and age (Algeria et al., 2008; Crosnoe, 2012; Marks, Ejesi, & Garcia Coll, 2014; Palacios, Guttmannova, Chase-Lansdale, 2008). For example, the immigrant paradox for education is more apparent in adolescent immigrants than immigrant children, and one possible explanation for this are dropout rates as Latino students progress through school (Crosnoe, 2012). Further, the immigrant paradox appears to hold consistently only when SES is accounted for (Crosnoe, 2012; Greenmen, 2013; Hernandez et al., 2012). That is, immigrants only appear to hold an advantage over native-born individuals when both come from similar socioeconomic backgrounds. This highlights the importance of accounting for the intersection of class and immigrant background. Controlling for related variables, such as SES, has shown to change the conclusions of studies measuring the immigrant paradox. To this researcher's knowledge, no studies have controlled for the effects of documentation status on the results of the immigrant paradox, and these effects are important to consider. The

legality of immigration has the potential to affect well-being and development in immigrants (Marks et al., 2014). By examining data through immigrant status (immigrant and US-born) and subsequently through documentation status (stable and non-stable), this study hopes to inform future research of the potential effects of documentation status.

Although the immigrant paradox is difficult to explain empirically, theories have been proposed to explain these unique findings. One possible explanation is the cultural integration hypothesis. This hypothesis is based on immigration from Mexico, and suggests that Mexican immigrants represent a unique segment of Mexican culture, brought to the US through self-selection that promotes resilience in the US environment (Buriel, 2012). The theory holds that through acculturation, descendants of immigrants lose the protection of this culture. However, researchers suggest that descendants of immigrant Latinos who retain their culture of origin while integrating some adaptive aspects of the dominant US culture (i.e., individualistic attitude for navigating career/education) may be able to hold on to the original protections of their immigrant ancestors (i.e., hold on to ability to speak Spanish and thus remaining bilingual) that resulted in good outcomes (Berry, Phinney, Sam, & Vedder, 2006; Buriel, 2012; Schwartz et al., 2010).

Another explanation is that through exposure to discrimination, potentially within the US schooling system, Latinos lose the protective effects that may have contributed to resilience in earlier generations. The US schooling system and other forms of systemic discrimination may encourage the loss of native language, discourage

important cultural practices, and encourage an individualistic mentality over a collectivistic mentality (Hill and Torres, 2010; Telles & Ortiz, 2008; Valenzuela, 2010). In addition, schools may promote negative views of one's own ethnic group by placing immigrants in less rigorous education tracks and emphasizing different cultural expectations for education (Hill and Torres, 2010).

A third potential explanation is that the conditions in the modern US no longer allow for the same upward mobility that was possible for the first wave of European immigrants. For example, there has been a decrease in upwardly mobile jobs that do not require high levels of education (North, 2009). The conditions for first wave European immigrants allowed for a rise in job position and salary for entry-level jobs. For example, employment as a factory line worker could lead to eventual promotion to a managerial position. The current decline in upward mobility does not allow individuals who find an entry-level labor oriented job to experience a rise in their job title, which includes a stagnant minimum wage salary or lower for undocumented workers.

Finally, segmented assimilation theory may help explain some of the inconsistencies found within the immigrant paradox. This theory suggests that assimilation outcomes for immigrants are largely dependent on the environment to which an immigrant is exposed (Portes & Zhou, 1993). For example, race and outward appearance of racial features may result in discrimination (Arce, Murguia, & Frisbie; 1987), and when combined with residence in a low SES neighborhood with few resources can lead to a decrease in resiliency through assimilation (Massey & Denton, 1993). In contrast, being more racially similar to the majority race and residence in a

resource rich neighborhood can lead to improved outcomes through assimilation (Portes & Zhou, 1993). An example of segmented assimilation for students with unstable status is provided below.

The immigrant paradox has largely focused on and found evidence for the resilience of documented immigrants and US born Latino children of immigrants (Gonzales, 2012). Qualitative research on undocumented youth also suggests that they are uniquely resilient, especially at higher levels of education, setting them apart from their native-born peers, peers with legal documentation, and youth with unstable documentation status who do not persist onto college (Abrego, 2006; Abrego & Gonzales, 2010; Ceballo, 2004; Contreras, 2009; Drachman, 2006; Enriquez, 2011; Gomez & Hawkins, 2012; Gonzales, 2010, 2011, 2012; Huber & Malagon, 2007; Pérez et al., 2010; Suarez-Orozco et al., 2011). It may be that the college students with unstable status perform well academically because they are a carefully selected group who have had unique environments of support and personal resilience that facilitated academic aspirations. For instance, an ethnographic study with undocumented Latino young adults found that those who persisted to college had a unique school environment that included teacher mentorship, positive peer relationships, small classes, and challenging course work. In contrast, undocumented Latino youth who did not persist on to college were unnoticed by teachers, placed in remedial tracks, and were exposed to negative peer influence (Gonzales, 2012). Such an outcome provides an example of differential treatment by the majority society, as those who persisted on to college were provided a resource-rich environment, while those who did not were exposed to a

resource poor environment. Given previous research, it is suggested that Latino immigrant college students, especially if they have unstable status, will have a higher average grade point average (GPA) and other related measures of academic success than US born Latino college students because of the uniquely supportive school environments and strong personal academic motivation. It is unclear if the success suggested in undocumented students is because of a true universal immigrant paradox or to the uniquely selective nature of college students with unstable status.

Indicators such as individual subject grades, GPA, placement in advanced courses, and standardized test scores are often used as measures of academic success. In particular, GPA is one of the most often used measures of academic achievement, as it is a global indicator of success in school (Duckworth & Seligman, 2005; Kraemer, 1996; Padilla & Gonzales, 2001; Sanchez, Colon, & Esparza, 2005). Researchers have obtained both GPA from academic records offices at schools and through student's self-report. Although self-report may result in some error, several studies have shown that college students are relatively accurate in reporting their cumulative GPA (Cassady, 2001; Kirk & Saereda, 1969; Kuncel, 2005). There is a consistently high degree of correlation between self-report GPA and actual GPA, ranging between .80 and .97 (Kuncel, 2005; Walsh, 1967). As an individual's grade level increases (i.e., high school freshmen vs. college senior), their ability to accurately self-report GPA improves (Kirk & Saereda, 1969).

Resiliency Theory

Resiliency is defined as an ability to successfully adapt despite exposure to negative environmental circumstances (Masten & Powell, 2003). An individual is considered resilient when she/he has been exposed to risk factors, environmental circumstances associated with unhealthy development, but had a successful and healthy development (Arrington & Wilson, 2000; Perez, Espinoza, Ramos, Coronado, & Cortes, 2009; Werner & Smith, 1992). Resiliency theory is interested in studying factors related to success rather than explaining failure. Resiliency is determined by the interaction and presence of both protective factors (characteristics related to positive development) and risk factors (any potential threat to postive development that is out of the individuals control; Werner & Smith, 1992).

Vulnerability, resiliency, and protection can be viewed as developmental outcomes existing on a continuum based on the number of risk and protective factors present (Dumont & Provost, 1999). Vulnerable youth are exposed to a relatively high number of risk factors as compared to protective factors (Dumont & Provost, 1999; Perez et al., 2009). Resilient youth have been exposed to both a high number of risk and protective factors, and may have experienced more protective factors than risk factors (Dumont & Provost, 1999; Perez et al., 2009). Protected youth have been exposed to low levels of risk factors while having many protective factors present during their development (Dumont & Provost, 1999; Perez et al., 2009). Just as resiliency and vulnerability can be conceptualized as existing on the same continuum, often times risk and protective factors exist on a continuum where low levels may be considered a risk

and high levels may be considered protective, or vice versa. It is important to understand the effect risk and protective factors have on the developmental trajectories of Latinos, regardless of their documentation status, because of their minority status. Latino college students benefit from a resiliency perspective because it helps researchers focus on positive aspects that help this population thrive into successful adults, and Latino college students may fit the definition of resiliency because of the number of risk factors they are exposed to throughout their development and the level of success they have been able to achieve despite those negative exposures. The culmination of research on Latino students, including both qualitative and quantitative studies, suggests that immigrant Latino students tend to be more resilient than US born Latinos (immigrant paradox). Furthermore, the qualitative research on undocumented students in college suggests that they may be the most resilient of all within the Latino college student population because of their increased exposure to structural risk factors throughout their development. To this date, no study exists directly comparing the experiences of risk and protective factors of Latino college students differing in documentation status or immigrant status.

Risk and Protective Factors

Risks are defined as any events that pose a threat to development that are out of the individual's control (Arrington & Wilson, 2000; Resnick & Burt, 1996; Werner & Smith, 1992). Overall, exposure to single, acute stressors are not typically associated with developmental problems; rather, it is the cumulative effect of multiple risk factors that are associated with negative life trajectories (Condly, 2006; Masten & Powell, 2003).

Several risk factors that have been described in the resiliency literature are comparable to descriptions of struggles in qualitative studies with undocumented students. These include coming from a family with low SES and chronic stressors outside of the individual's control, such as those related to immigration stress. It is important to measure and understand if the presence of risk factors is different for Latino students based on documentation status or immigrant status.

There are several common factors present during the development of resilient individuals that are related to healthy mental, physical, and academic development (Condly, 2006). These factors have been identified as protective factors (Werner & Smith, 1992), meaning that they help bring about a positive outcome or help reduce the effects of a negative outcome (Arrington & Wilson, 2000; Condly, 2006; Werner & Smith, 1992). Qualitative studies suggest that undocumented youth need to experience a uniquely high level of protective factors in order to successfully continue on to college. However, no study has investigated if these personal protective factors are experienced at a higher level by Latino college students with unstable status when compared to their Latino counterparts with stable documentation status attending college.

Socioeconomic status (SES). Living in poverty has been identified as a risk factor in several resiliency studies with Latino youth (Gonzalez & Padilla, 1997; Werner & Smith, 1992). Undocumented status tends to place individuals in poor or working class social status. Families without legal documentation are more likely to lack health care, not access public resources because of fear, and lack bank accounts or access to financial services (Abrego & Gonzales, 2010). Undocumented youth are more likely to

live in crowded housing, have parents with low levels of educational attainment, live in high crime neighborhoods, experience unstable income from job instability, and attend low-performing schools; all factors related to low SES (Abrego & Gonzales, 2010; Diaz-Strong & Meiners, 2007; Gildersleeve & Ranero, 2010). Many US born Latino children have parents with unstable documentation status, which may result in experiencing the same level of risk that undocumented Latinos experience (Passel, 2006). Latino families, regardless of documentation status and immigrant status, are also more likely to experience poverty and a lack of resources (U.S. Census Bureau, 2012). Latino college students overall have a higher occurrence of poverty because of their minority status in the US. (U.S. Census Bureau, 2012). In contrast, having higher SES may also lead to unique advantages for Latino college students. For example, studies with Latino immigrant adolescents have found that higher SES is related to better school performance and had better mental health outcomes (Alegria et al., 2008; Palacios et al., 2008) In addition, undocumented immigrants with a greater number of resources are better prepared to successfully file for and receive approval for DACA status (Gonzales et al, 2014). Finally, financial resources may impact how immigrants with unstable status are able to enter the U.S. For example, immigrants with low SES may have to enter the U.S. without inspection, leading to high levels of stress. In contrast, those immigrants with more financial resources may be able to obtain a temporary non-immigrant visa and enter the U.S. legally, thus experiencing lower levels of stress. This further differs from immigrants with stable status who are likely to have the most

financial resources, allowing them to obtain a more permanent method of entry into the U.S. and experience less stress.

Bicultural identity. Studies with Latino populations have found that certain cultural aspects can be sources of resiliency in this group (Kim-Cohen, 2007). For instance, biculturalism is the ability to navigate oneself between two cultures, which can sometimes lead to bicultural stress because of difficulty integrating the values of both cultures (Romero & Roberts, 2003; Smokowski & Bacallao, 2011). Experiencing a clash between two cultural values is considered a risk factor, whereas fluid biculturalism, the ability to harmoniously integrate aspects of two cultures, has been identified as a protective factor in immigrant youth (Benet-Martinez & Haritatos, 2005; Kim-Cohen, 2007). An integrated bicultural identity allows an individual to retain positive aspects of their culture of origin that is protective in their development, while having the skills and knowledge to successfully navigate oneself within the dominate culture (Kim-Cohen, 2007). As the US society operates under the dominant American culture, internalization of certain aspects of the dominant culture may be beneficial for Latino students to successfully adapt to society. An integrated bicultural identity leads to a flexibility that can lead to positive coping as adults (Haritatos & Benet-Martinez, 2002). A poor integration of a bicultural identity can lead to developmental problems such as identity confusion, low self-worth, and feelings of isolation (Benet-Martinez & Haritatos, 2005). Latino college students are often faced with the challenge of integrating their culture of origin with the dominant culture they are exposed to through their host country regardless of documentation or immigrant status. Studies explaining the occurrence of

the immigrant paradox suggest that an integrated bicultural identity is important in maintaining resilience throughout Latino generations (Berry et al., 2006; Buriel, 2012; Schwartz et al., 2010). Immigrants, especially those with unstable status, may experience greater cultural conflict because of the potential of being less acculturated based on spending less years in the US.

Problem-solving orientation. An often-cited protective characteristic is flexible problem-solving skills (Condly, 2006; Dumont & Provost, 1999; Masten, 1990). Active coping and problem solving was more common in a group of resilient youth than in vulnerable or well-adjusted youth (Dumont & Provost, 1999). Problem solving ability is related to positive coping in a variety of health outcomes. For example, having a high problem solving ability was found to mediate the relationship between personality factors that lead to substance abuse problems (Jaffee & D'Zurilla, 2009). In a sample of Latinas with diabetes, problem-solving ability resulted in improvement in health outcomes (Barrera, Toobert, Strycker, & Osuna, 2012). Several studies have found that approach-oriented coping, which includes active problem solving, has been related to less conduct problems, higher grades, and functioned as a buffer for family related stress (Barrera, Gonzales, Lopez, & Fernandez, 2004). In a study with undocumented students identified as successful, problem solving skills were related to their educational persistence (Morales et al., 2009).

Grit. Characteristics of persistence and a sense of purpose are also related to resiliency (Bernard, 1991; Werner & Smith, 1992). Undocumented students who persist through higher education usually show qualities of *ganas* or grit (Contreras, 2009;

Rodriguez, Castillo, Gandara, 2013). "Grit is defined as a trait-level perseverance and passion for long-term goals" (Duckworth & Quinn, 2009, p. 166). Those students who continue with their education have fostered a sense of self-direction and achievement motivation (Morales et al., 2009). Decreases in academic motivation among immigrant adolescent populations has been related to decreases in academic outcomes (Suarez-Orozco et al., 2009). In addition, studies focusing on the immigrant paradox in education suggest that self-motivation and determination are important predictors of positive academic outcomes in immigrants, and that self-motivation tends to be higher in immigrant Latinos than in native born Latinos (Hill & Torres, 2010; Suarez-Orozco et al., 2009).

Purpose

Informed by resiliency theory, the immigrant paradox, and published research, the purpose of the current study is threefold: a) to identify if differences in the risk factors, protective factors, immigration-related stress, and academic performance can help differentiate students based on documentation status (stable or unstable), b) to identify if differences in the risk factors, protective factors, immigration-related stress, and academic performance can help differentiate students based on immigrant status (immigrant or US born Latinos), and c) to identify which protective and risk factors predict immigration-related stress. The immigration-related stress scale will also be tested for appropriateness with this sample using exploratory factor analysis.

This study hypothesizes the following:

Hypothesis 1: Stable vs. unstable status will be predicted by experiences in immigration-related stress, risk factors, protective factors, and academic performance.

Hypothesis 2: Immigrant vs. US born Latinos will be predicted by experiences in immigration-related stress, risk factors, protective factors, and academic performance.

Hypothesis 3: Students with unstable status will experience higher levels of risk and protective factors, as well as higher degrees of immigration-related stress than students with stable status.

Hypothesis 4: Immigrant students will experience higher levels of risk and protective factors, as well as higher degrees of immigration-related stress than US born Latino students.

Hypothesis 5: Students with unstable status will have better academic performance, as measured by GPA and GT/AP class placement, than students with stable status.

Hypothesis 6: Immigrant students will have better academic performance, as measured by GPA and GT/AP class placement, than US born Latino students.

Hypothesis 7: Immigration-related stress will be positively predicted by risk factors and negatively predicted by protective factors.

The current study allows for a direct connection between qualitative and quantitative studies regarding the resiliency of undocumented students and immigrant students, and compares these experiences to the experiences of students with stable documentation status and US-born students. Documentation status will be broken down into stable and unstable status. Stable status includes U.S. citizens and permanent

residents and unstable status includes DACA holders, students without any form of current documentation, and temporary non-immigrant visa holders. It is important to start teasing out the differing effects immigrant status and documentation status may have on the development of Latino students. In addition, this study directly ties risk and protective factors identified through qualitative studies with the literature on resiliency (Abrego, 2006; Abrego & Gonzales, 2010; Ceballo, 2004; Contreras, 2009; Drachman, 2006; Enriquez, 2011; Gomez & Hawkins, 2012; Gonzales, 2010, 2011; Huber & Malagon, 2007; Pérez et al., 2010; Suarez-Orozco et al., 2011). Studying these factors quantitatively can help explain the degree of impact these factors have on the well-being and development of Latino young adults, and help determine if these factors are consistently important across the population.

CHAPTER II

METHODOLOGY

Participants

The participants were students attending college in Texas due to the variability between state laws governing undocumented student enrollment in institutions of higher education. In addition, the study is limited to Latino students to limit confounders based on ethnicity. There were no restrictions of participants based on age or college grade level. Participants were recruited state wide through various campus student organizations that were created to support undocumented student rights and had strong support for The DREAM Act. Student members of these organizations were highly politically active in support of immigrant issues. The data were collected between November 2014 and March 2015, a time-point in which in-state tuition was being threatened for students with unstable status by the Texas state legislature. A bill was being proposed in the legislature that, if passed, would take away the rights of college students with unstable status to qualify for in-state Texas tuition based on history of Texas residency. At this time, a high degree of anti-immigrant political sentiment was portrayed through the media and many Texas residents were in support of the bill's success. All participants in the study were politically involved at the time in order to stop the progress of the above-mentioned bill.

There were a total of 140 responses to the survey, with 95 complete survey responses. The completed response rate for the survey was 67.9%. The majority of the sample was foreign born, with 60% born outside of the US. While 40% of the sample

was born in the US, the majority of the sample, 63.2%, lived outside of the US for a large portion of their childhood and came into the US sometime after birth. There were 3 participants who left the US after birth and returned as older children. For those 60 participants who entered the US after birth, the mean age of entry is 8 years old (SD = 5.59) with a range from 5 months to 21 years old. Of these 60 participants, 73.3% came from Mexico, 8.3% from El Salvador, 5% from Honduras, and 1 person each from Bolivia, Ecuador, Panama, Peru, and Venezuela. The mean years in the US for the sample were 16.42 years (5.52) with a range of 3 to 34 years. Of the 60% of the sample born outside of the US, 70.1% had unstable status and 29.8% had stable status. The sample was composed of participants with stable (guaranteed legal permanent US residency; US Citizens and Permanent Residents) and unstable (not considered legal US residents and either have no legal rights for US residency or have temporary rights that are highly regulated; DACA holders, temporary non-immigrant visa holders, and undocumented immigrants) documentation status. In the sample, 57.9% had stable status and 42.1% had unstable status. Of those with stable status, 69% were US born Latinos and 31% were Latinos born outside of the US. Of those Latinos with stable status born outside of the US, 10.9% were permanent residents and 89% were naturalized US citizens. The unstable status group included 77.5% participants who qualified as DACA, 7.5% participants had no form of documentation, and 15% were temporary non-immigrant visa holders.

In this study 88.4% of participants were full-time students. There were 27.4% freshmen, 21.1% sophomores, 25.3% juniors, and 26.4% seniors. The majority of the

sample, 67.4%, was composed of women. The mean age of the sample was 21 years old (SD = 3.6) with a range from 18 to 46 years old. Only one participant was past their 20s, otherwise the oldest participant was 28 years old. The mean GPA score for participants was 3.20 (SD = .49) and GPA ranged from 1.93 to 4.0. In addition, 59% of the sample had been placed in gifted and talented (GT) or advanced placement (AP) courses during their pre-college academic years.

Procedures

Participants were obtained through the recruitment of Latino college students through DREAM alliance associations at a four-year university in Texas. DREAM alliance associations include both undocumented students and allies of undocumented student. These organizations were created to provide support for undocumented students in college, and members of these organizations are often involved in politics and lobbying for the rights of undocumented college students. Surveys were administered through Qualtrics, an online survey generator, 79 completed surveys, and through in person recruitment at political rallies organized by the student organizations, 16 completed surveys. The survey took approximately 12 to 15 minutes to complete and was administered solely in English, as the sample is drawn from a college population and adequate English proficiency is assumed. After obtaining permission from the University's IRB, the survey link was forwarded to a designated officer in each campus organization, who in turn forwarded the link to qualifying group members and also shared the link on the group's social networking page. Participants were informed that the survey would ask questions regarding their educational and emotional experiences

during their schooling. For in person recruitment, the researcher approached potential participants and obtained verbal consent for participation. Participation in the study was completely voluntary and anonymous or confidential. No questions that could reveal identity were asked within the survey. Participants had the option of providing their name and email to receive a $10 gift card electronically, but this information was stored separately from their responses and destroyed immediately after reward was provided. If participants elected to remain anonymous, a $10 donation to TheDream.US scholarship fund or another charity of their choice was made for their participation. Participants were allowed to leave any questions unanswered and were informed that they could discontinue the study at any time without penalty. Participants were provided with the contact information of the primary researcher should they have any questions regarding the study. The data collection method posed minimal risk to study participants.

Measures

For the purpose of this study, variables were operationalized based on theoretical concepts developed from the research presented on resiliency. The concepts included: risk factors, protective factors, immigration-related stress, and academic achievement. A detailed description of all key variables and their measures follows.

Demographics. Participants were asked to report gender, current college level, birthplace, and documentation status. Birthplace was used to determine immigrant status, as either immigrant or US born Latinos. This variable was dummy coded as 0 for US born Latinos and 1 for immigrant. Documentation status included an option for US citizen, permanent resident, DACA holder, temporary non-immigrant visa holder, and an

option for undocumented/expired documentation. These were later grouped into stable (guaranteed legal US permanent residency; US Citizens and Permanent US Residents) and unstable (not considered legal US residents and either have no legal rights for US residency or have temporary rights that are highly regulated; DACA holders, temporary non-immigrant visa holders, and undocumented immigrants). This variable was dummy coded as 1 for stable status and 2 for unstable status.

Immigration-related stress. The 9-item Immigration-Related Stress scale was developed for the purposes of this study to assess whether participants perceived stress because of their immigrant status in regards to feelings of alienation, fears related to deportation or legal issues, and perception of barriers. Three items used in previous studies that showed adequate reliability and appeared to capture legal immigration concerns were used in the scale (McWhirter et al., 2013; Perez et al., 2009). The remaining 6 items were created based on the information gathered through qualitative and quantitative research with undocumented students, families of mixed status, and experiences of discrimination for Latinos. The items were created to capture the perception of the target population due to described barriers and experiences encountered by students with unstable status, the fear that may be present because of concern of deportation of self or close others, and the perceived experiences of exclusion and discrimination due to other's perception of one's status. The items were created by a researcher who identifies within the immigrant community, is familiar with the laws regulating immigrants, and grew up in a community highly populated by Latinos of varying documentation and immigrant status. The scale is intended to measure how

stressful the individual perceives potential legal barriers encountered and how strongly they perceive discrimination based on immigrant status. An example item used in one of the previous study is "Because of my immigrant status, I feel that I am not wanted in this country" (Perez et al., 2009). The item from the other study is "Because of my immigrant status, I feel that I will encounter barriers to my education" (McWhirter et al., 2013). A sample item created for the study is "I am frustrated by the fact that I cannot have a driver's license because of my documentation status." Items are measured on a 6-point Likert scale ranging from 1 (*strong disagree*) to 6 (*strongly agree*). Scores are measured on a continuum, with higher scores indicating higher risk. The scale had 8 missing cases and mean imputations were used on the missing items to conserve power. The means were determined based on group membership, either stable or unstable category. All 9 items showed adequate inter-item correlations and had a total α of .905.

Risk and protective factors. Four measures were used as indicators of risk and protective factors. Each variable chosen is reflected in the literature as a measure of risk or protection in Latino immigrants and identified as a struggle or source of support through interviews with undocumented Latino students. The variables include SES, bicultural integration, grit, and problem-solving orientation. The variables are measured on a continuum with one end indicating risk and the other indicating protection.

Social status. Participants were asked to report each parent's highest level of education and current occupation. Each response was assigned a point value, and used to create a composite variable for SES based on the Barratt Simplified Measure for Social Status (Barratt, 2006). Educational level is categorized on a 7-point Likert scale ranging

from less than 7th grade to graduate degree. Scores are assigned in multiples of 3, ranging from 3 at the lowest level (*less than 7th grade*), to 21 at the highest level (*graduate degree*). Occupational prestige is categorized on a 10-point Likert scale ranging from unemployed to professional careers. Scores are assigned in multiples of 5, ranging from 0 at the lowest level (*unemployed*) to 45 at the highest level *(professional).* Education and occupation are assigned different scoring weights based on the original Hollingshead SES Index (Barratt, 2006; Hollingshead, 1975). Barratt (2006) updated the prestige categorization of each occupation from the original Hollingshead index based on more recent social standards. In the case of two-parent families, the education level for each parent is summed together and divided by 2. This score is added to the summed and divided score for parent's occupational level to create the index score for social status. Scores typically range between 8 and 66 but can be lower due to unemployment. In the case of a single parent household, the primary caregiver's education and occupation scores are summed to create the social status composite. Low social status is considered a risk factor while high social status is considered a protective factor. Internal reliability is not obtained due to the scaling of items (Barratt, 2006).

Cultural conflict. Personal integration of majority and minority cultural identities was measured using an altered version of the Bicultural Identity Integration Scale –Version 1 (Benet-Martinez & Haritatos, 2005). This scale measures cultural conflict (feeling torn between identities vs. feeling they are compatible). The scale was created to measure the bicultural integration of Chinese Americans; the wording on each item was changed to reflect the integration of Latino individuals. The word Chinese

American was replaced by Latino American, and the scale was altered in the 2005 version (Benet-Martinez & Haritatos, 2005). The scale is comprised of 4 items that are measured on a 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*), and had a reported reliability Cronbach's α coefficient of .82 with a college Latino population (Miramontez, Benet-Martínez, & Nguyen, 2008). A sample item is "I feel like someone moving between two cultures." Scores were measured on a continuum, and individuals with a more integrated and fluid cultural identity (lower scores) were considered protected. Higher scores indicate experiences of more conflict between cultures and is therefore considered a risk. Only 94 cases were used to determine reliability because of missing data on one case. The items showed adequate inter-item correlations and a Cronbach's α of .803.

Grit. Student's perseverance and consistency with goals was measured with the 8-item Short Grit Scale (Duckworth & Quinn, 2009). Responses are measured on a 5-point Likert scale ranging from 1 (*not at all like me*) to 5 (*very much like me*). Sample items include, "I finish whatever I begin", and "New ideas and projects sometimes distract me from previous ones." Higher scores indicate a higher level of grit. Students who showed high levels of grit are considered protected. Internal consistency ranged from .73 to .83 in the original study with adults older than 25 and university military school cadets. Only 93 cases were used to determine reliability because of missing data on two cases. The scale had a Cronbach's α of .769.

Problem-solving orientation. The problem-solving skills scale (PSS) was used to measure an individual's self-appraisal of their problem-solving style (Maydeu-Olivares

& D'Zurilla, 1997). The scale includes 9-items that correlate well with the problem solving approach style subscale and the problem solving confidence subscale, r = .92 and r = .93 respectively, of the Problem Solving Inventory (Heppner & Petersen, 1982). A sample item includes "When a solution to a problem has failed, I do not examine why it didn't work." Each response is measured on a 6-point Likert scale. Higher scores indicate better problem-solving skills. The measure showed good internal reliability, α = .83, in the original sample of undergraduate college students (Maydeu-Olivares & D'Zurilla, 1997). Individuals showing better problem-solving appraisal were considered protected. The Cronbach's alpha coefficient for the scale with the 9 items was α = .673. Inspection of the data output revealed that item 8 had low correlations with the other items. Further inspection revealed that the wording for the item was long and complex, which may have affected the reliability of that item. The item was removed which resulted in an improved Cronbach's alpha, α = .734.

Academic achievement. Self-report college GPA and placement in a gifted and talented (GT) or advanced placement (AP) course were measured as an indicator of academic achievement. Means and standard deviations for variables of interest are included in Table A-1.

CHAPTER III

RESULTS

Data Analysis Plan

Exploratory factor analysis. Exploratory factor analysis (EFA) is a psychometric technique that can be used to measure the construct validity of a scale, to reduce the number of measured variables into fewer latent variables, and to identify patterns of relationships within a scale through the creation of factors (Henson & Roberts, 2006; Thompson, 2004). In this study, EFA was run to measure the validity of the immigrations stress scale, which was created for the purposes of this study. EFA is indicated when no prior relationships among the variables has been established through research (Henson & Robert, 2006; Thompson, 2004). The loadings of each item on the factor are used to determine the importance of each item in explaining the variance of the factor (Henson & Roberts, 2006).

EFA is a data-driven method of analysis that requires subjective decision-making based on the evidence provided by the data being analyzed (Finch & West, 1997; Thompson, 2004; Williams, Brown, & Onsman, 2010). Williams et al. (2010) developed a five-step guide to EFA to provide a systemic approach that facilitates the development of clear decision-making when conducting a factor analysis.

In the first step, the researcher determines if the data are appropriate for factor analysis, which is influenced by sample size (Williams et al., 2010). The Kaiser-Meyer-Olkin (*KMO*) measure of sampling adequacy helps determine if the sample size is adequate for the particular analysis (Tabchnick & Fidell 2001). The second step is to

determine the extraction method for the factors (Williams et al., 2010). In this case principle axis factoring is used, as it accounts for error variance and is a robust statistic (Fabrigar, Wegner, MacCallum, & Strahan, 1999).

In the third step, the researcher determines the number of factors that will be extracted from the data (Williams et al., 2010). According to Thompson and Daniel (1996), suggest using multiple methods to determine how many factors should be extracted from the data. In this case, eigenvalues are inspected and factors with eigenvalues greater than one are considered for retention (Hubbard & Allen, 1987). The cumulative percentage of the variance is examined to determine how many factors accounted for at least 50%-60% of the data, and those factors are then considered for retention (Williams et al., 2010). A scree plot is examined and factors located above the largest break in the plotted line are considered for retention (Williams et al., 2010). Finally, a parallel analysis will be conducted. Measured factors with eigenvalues larger than their compared random order eigenvalues is considered for retention (Thompson, 2004). O'Connor's (2000) SPSS syntax is used to run the parallel analysis.

The fourth step is to determine which rotational method should be used to aid in the interpretation of the factors (Williams et al., 2010). The rotation of the factors facilitates the interpretation of the results because it serves to maximize high factor loadings and minimize low factor loadings without changing the shape of distribution (Williams et al., 2010). In this case, an oblique rotation method will be used because it assumes correlation between the factors, as the potential factors affecting immigration-related stress may correlate with each other (Henson & Roberts, 2006). The fifth and

final step involves interpretation of the items on the factors and interpretation of what each factor may represent (Williams et al., 2010). The strength of the loading of each item on the factor is examined to determine retention within the factor (Henson & Roberts, 2006). Generally, loadings above .4 are considered high enough for retention (Floyd & Widaman, 1995).

Discriminant function analysis. Discriminant function analysis was used to determine if immigration-related stress, social status, cultural conflict, problem-solving orientation, grit, college GPA, and a history of gifted and talented (GT)/advanced placement (AP) classes would predict group membership in either stable (guaranteed legal permanent US residency; US Citizens and Permanent US Residents) or unstable (not considered legal US residents and either have no legal rights for US residency or have temporary rights that are highly regulated; DACA holders, temporary non-immigrant visa holder, and undocumented immigrant) documentation status, as well as immigrant or US born status.

Discriminant function analysis is used to determine which groups of variables distinguish between two or more groups (Poulsen & French, 2008). Two steps are involved in discriminant function analysis. The first step involves a multivariate F test to determine if there are differences present (Poulsen & French, 2008). If the F test suggests the presence of differences, each factor is then analyzed to determine differences between groups (Poulsen & French, 2008). This is followed by classifying the variables into appropriate groups using weighted group means (Poulsen & French, 2008). Functions are selected based on how well they predict group membership and

shared variance is removed (Poulsen & French, 2008). The risk factors, protective factors, and academic variables described above were used in the model to predict group membership based on immigrant status and documentation status.

Hierarchal linear regression. A hierarchal linear regression was used to determine which risk and protective factors predicted the level of immigration-related stress. Immigrant status and documentation status were entered in the first step. In step 2, years in the US was added. For US citizens, their age at the time they took the assessment was used to define their years in the US. Finally, risk factors (low social status and high cultural conflict) and personal protective factors (grit and problem-solving ability) were added in step 3.

Predictor variables at p-values equal to or less than .05 are considered statistically significant. The final multiple correlation coefficient (R^2) was interpreted to determine the power of the combined predictor variables in explaining the variance of the criterion variable (immigration-related stress). The change in R^2 at each step of the regression analysis was also evaluated to determine the value each predictor adds to the interpretation. To determine the strength of each predictor variable, both the structure coefficients and the Beta weights were interpreted. In cases in which there is some correlation between the predictor variables, only interpreting Beta weights may lead to incorrect assumptions regarding the strength of the predictor variable (Dunlap & Landis, 1998). Interpreting both Beta weights and structure coefficients is informative of both the relationship of the predictor variables with each other and that of the predictor variables with the criterion variable. A hierarchal linear regression allows for measuring

the value of multiple predictor variables at once, which results in more accurate effect sizes. In addition, a hierarchal multiple regression allows for the testing of theoretical relationships (Thompson, 2008). In this case, this method is preferred over structural equation modeling due to the sample size constraints.

Prior to conducting the main analyses, the data were checked to make sure assumptions were met for multivariate normality, linearity, and multicollinearity (Thompson, 2008). All data met prior assumptions. Multivariate normality of the data is important because outliers can result in measurement error. To perform a regression analysis and discriminant analysis, data must have linear relationships as regression weights only reflect linear relationships (Kline, 2011). To check for multicollinearity, bivariate correlations and the variance inflation factor (*VIF*) index, tolerance index, and a collinearity diagnostic were conducted (O'Hagan & McCabe, 1975). It is important for predictor variables to not be overly correlated, as this can affect the estimation of the effect size for individual predictors (Thompson, 2008). Prior to analyzing the data, a power analysis was run to check for sufficient sample size to perform a hierarchical linear regression and a discriminant function analysis. An a-priori power analysis indicated a need of 90 participants to conduct the analysis if effect sizes are estimated to be 0.20.

Preliminary Analysis

Correlations. All variable correlations are located in Table A-2. The following relationships were statistically significant. A positive correlation of $r = .234$ ($p = .023$) was found between college GPA and documentation status. This correlation

demonstrates that higher GPA was associated with unstable documentation status. In other words, slightly higher GPA was found among students with undocumented status, DACA holders, and temporary non-immigrant visa holders. Also, a positive correlation of .302 (p = .003) was found between GPA and immigrant status. This means that students born outside of the US reported higher GPA. Immigrant status was also associated with gender (r = -.293, p = .004). That is, more men classified as first generation immigrants compared to women. Documentation status was found to be related to immigrant status (r = .696, p < .000). This indicates that first generation immigrant status was related to unstable documentation status. Immigration-related stress was positively related to immigrant status (r = .445, p < .000) and documentation status (r = .498, p < .000). In other words, being a first generation immigrant and having an unstable documentation status were both associated with increased immigration-related stress. Higher levels of grit were associated with more advanced college level (r = .204, p = .047), being a first generation immigrant (r =.222, p =.031), and having unstable documentations status (r = .264, p =.010). A higher score on the problem solving orientation scale was associated with more advanced college level (r = .241, p = .018) and more grit (r = .418, p < .000). Finally, experiencing more cultural conflict, that is lower fluid biculturalism, was associated with being female (r = .204, p = .047), experiencing more immigration-related stress (r = .257, p = .012), lower social status (r = -.204, p = .047), and having a higher problem-solving orientation (r = .270, p =.008).

Independent samples t tests. Based on the differences in the sample on generational status and documentation status, independent sample t tests were conducted to determine if these differences affect the variables of interest for the main analysis. The full table for the t tests is included in Table A-3 (Immigrant Status) and Table A-4 (Documentation Status).

Immigrant status. The *t* tests for generation status revealed some statistically significant differences. In terms of gender, there were more men in the immigrant group (M =1.56, SD = .50) than in the US born Latino group (M = 1.84, SD = .37), $t(92) = -3.14$, $p < .01$, $d = .64$. Levine's test indicated unequal variances ($F = 42.22$, $p < .001$), so the t statistic for equal variances not assumed, which adjusted degrees of freedom from 93 to 92 on SPSS (Shoemaker, 2003). The groups also differed on GPA. Immigrant students had a higher GPA (M = 3.32, SD = .44) than US born Latino students (M = 2.93, SD = .70), $t(93) = 3.35$, $p = .001$, $d = .67$. First generation immigrant students experienced a higher degree of immigration-related stress (M = 3.73, SD = 1.19) than US born Latino students (M = 2.51, SD = 1.25), $t(93) = 4.79$, $p < .001$, $d = 1.28$. First generation immigrant students also reported higher levels of grit (M = 3.55, SD = .67) than US born Latino students (M = 3.28, SD = .58), $t(93) = 2.19$, $p < .05$, $d = 1.22$.

Documentation status. The t-tests for the documentation status variable are based on differences in groups between those having stable status in the US (US citizens & permanent residents) and those with unstable status in the US (DACA holders, undocumented immigrants, and temporary non-immigrant visa holders). The t tests revealed some statistically significant differences. Students with unstable status had a

higher GPA (M = 3.34, SD = .46) than students with stable status (M = 3.04, SD = .65), $t(93) = 2.47$, $p < .05$, $d = 1.31$. Immigration-related stress also differed between the two groups. Students with unstable status experienced a higher degree of immigration-related stress (M = 4.02, SD = .92) than students with stable status (M = 2.67, SD =1.32), $t(93) = 5.54$, $p < .001$, $d = 1.47$. Finally, students with unstable status also reported higher scores on grit (M = 3.63, SD = .63) than students with stable status (M = 3.30, SD = .57), $t(93) = 2.64$, $p = .01$, $d = 1.27$).

Main Analyses

Exploratory factor analysis (EFA): Immigration-related stress scale validation. While the sample size was relatively small for conducting EFA, the Kaiser-Meyer-Olkin (*KMO*) measure of sampling adequacy was .892, suggesting that the sample was adequate to conduct EFA. A *KMO* of 0.5 or above is considered appropriate for factor analysis (Tabchnick & Fidell 2001). In addition, Bartlett's test of sphericity was statistically significant ($p < .001$), further confirming that the sample was appropriate for factor analysis (Tabchnick & Fidell 2001). There was only one factor with an eigenvalue greater than one and this factor accounted for 52.6% of the variance. The scree plot showed only one factor above the break point, and the parallel analysis only showed one factor with an eigenvalue above the random ordered eigenvalue. Therefore, only one factor was retained, and no rotation was necessary to interpret the factor loadings. Factor loadings for each item ranged from .487 to .839 suggesting that all items should be retained in the scale (Floyd & Widaman, 1995).

Discriminant function analysis. A discriminant function analysis was run to determine whether differences in immigrant status and documentation status were seen based on the variables of interest. A discriminant function analysis indicates whether group membership can be predicted based on a specified model of predictor variables, and how well these predictor variables function to categorize into group membership correctly. The model was run using documentation status as a grouping variable and immigrant status as a grouping variable to determine which model had stronger predictive power. The predictors included grit, cultural conflict, immigration-related stress, social status, GT/advanced class placement, GPA, and problem-solving orientation

Documentation status. The means and standard deviations for each variable based on group status are included in Table A-4. Box's M of equality of variance determined that there are no significant differences between groups and that the homogeneity of variance assumption is not violated, $p = .049$. The model shows a statistically significant ability to predict group membership, Wilks' Lambda = .610, chi square(7) = 44.19, $p < .001$. The predictors accounted for 62% of the variance in the outcome variable. The model was able to correctly predict group membership for stable status 80% of the time and unstable status 75% of the time. The centroid for each group was set at -.674 for students with stable status and .927 for students with unstable status. Centroids were selected using weighted means due to unequal group size (Poulsen & French, 2008). Closer inspection of the model revealed that only three predictors were statistically significant predictors. The function of immigration-related stress had the

highest loading (standardized canonical discriminant coefficient = .901, unstandardized = .766), followed by grit (standardized canonical discriminant coefficient = .523, unstandardized = .878), and finally GPA (standardized canonical discriminant coefficient = .314, unstandardized = .546). The three variables had statistically significant differences between the groups. In this case, students with unstable status had statistically significant higher GPA, grit, and Immigration-related stress. The three statistically significant functions also showed adequate correlations to the function (immigration-related stress: r = .718, grit: r = .343, GPA: r = .320). The results suggest that only immigration-related stress, grit, and GPA should be kept in the final model. The cross-validated classification, a jack-knife procedure which is repeated for each individual case, indicates that, using the prediction model, 76.4% of students with stable status were correctly classified and 72.5% of students with unstable status were correctly classified. A graphical representation of grouping is included in in the figure located in Figure B-1.

This figure is a box-and-whiskers plots that demonstrates the distribution of the two groups. The line across the box represents the median (Thompson, 2008). The edges of the box represent the 2nd quartile and 3rd quartile of the data, which indicates that 50% of the sample data lie within the area of the box (Thompson, 2008). Finally, the end point of each whisker represents the lowest and the highest data point (Thompson, 2008). This figure allows for the comparison of the box and whisker plot representing the stable group, 1, and the unstable group, 2. Each box-and-whisker plot is placed side by side within a graph. The graph is used to compare the plots to determine the area of overlap,

where the plots overlay on the y-axis. The less of an overlap there is, the better the model is at predicting an individual into the correct group.

Immigrant status. The means and standard deviations for each variable based on group status are included in Table A-3. Box's M of equality of variance determined that there were no significant differences between groups and the homogeneity of variance assumption is not violated, $p = .003$. The model shows a statistically significant ability to predict group membership, Wilks' Lambda = .662, chi square(7) = 36.96, $p < .001$. The predictors' accounted for 58% of the variance in the outcome variable. The model was able to correctly predict group membership for US born Latinos 60% of the time and first generation immigrant 86% of the time. The centroid for each group was set at -.867 for students born in the US and .578 for students born outside of the US. Centroids were selected using weighted means due to unequal group size (Poulsen & French, 2008). Closer inspection of the model revealed that only three predictors were statistically significant predictors. First, the function of immigration-related stress had the highest loading (standardized canonical discriminate coefficient = .837, unstandardized = .689), followed by grit (standardized canonical discriminate coefficient = .470, unstandardized = .781), and finally GPA (standardized canonical discriminate coefficient = .412, unstandardized = .733). The three statistically significant functions also showed adequate correlations to the function (immigration-related stress: $r = .694$, grit: $r = .486$, GPA: $r = .318$). The three variables had a statistically significant difference, and were considered adequate predictors of the grouping variable. In this case, immigrant students had higher GPA, grit, and Immigration-related stress. For this group, immigration-

related stress is elevated, but not as high as when the focus is on students with unstable status. The results suggest that only immigration-related stress, grit, and GPA should be kept in the final model. The cross-validated classification results indicate that, using the prediction model, 58% of students born in the US were correctly classified and 84% of students born outside of the US were correctly classified. A graphical representation of grouping is included in Figure B-2.

This figure is a box and whiskers plot that demonstrates the distribution of the two groups. The line across the box represents the median (Thompson, 2008). The edges of the box represent the 2nd quartile and 3rd quartile of the data, which indicates that 50% of the sample data lie within the area of the box (Thompson, 2008). Finally, the end point of each whisker represents the lowest and the highest data point (Thompson, 2008). This figure allows for the comparison of the box and whisker plot representing the US born Latino group, 0, and the immigrant group, 2. Each box-and-whisker plot is placed side by side within a graph. The graph is used to compare the plots to determine the area of overlap, where the plots overlay on the y-axis. The less of an overlap there is, the better the model is at predicting an individual into the correct group.

Regression analysis for immigration-related stress. Due to the importance of experiencing stress related to immigration concerns, a regression analysis was conducted by examining the role of risk and protective factors. Multicollinearity was assessed through bivariate correlations, the variance inflation factor (*VIF*) index, the tolerance index, and the condition index by running a collinearity diagnostic (O'Biran, 2007). No predictor variables were highly correlated, no *VIF* indices were higher than 10, no

tolerance coefficients were below .2, and no condition indices were greater than 30 along with a correlation of 0.5. These results suggest that multicollinearity was not a problem in the analysis (Wichers, 1975). A hierarchical linear regression predicting immigration-related stress was performed, controlling for documentation status (stable vs. unstable) and immigrant status in the first step, years in US in the second step, and measuring risk and protective factors (low cultural conflict, problem solving, grit, social status) in the third step. Years in US was added in a second step to measure if the effects based on the status variables were because of years spent in the US, rather than either documentation status or immigrant status. This is important to distinguish because of the fact that the majority of the participants born outside of the US had spent varying degrees of years in the US.

Results indicated that the predictors accounted for 38% of the variance in the final model (R^2 = .38; F (7, 87) = 7.73, p = .000). In Step 1, documentation status was statistically significant (β = .37, p = .004), and the predictors account for 27% of the variance (R^2 = .27; F (2, 92) = 16.71, p = .000). In the second step, there was not a statistically significant change in R^2, indicating that the years in US variable was not significant and documentation status continued to be the only statistically significant variable (β = .38, p = .003). The final model revealed that documentation status (β = .43, p = .001) continued to be significant. In addition, cultural conflict (β = .28, p = .003) was a significant predictor of immigration-related stress. The hierarchal regression data is included in Table A-5.

CHAPTER IV

DISCUSSION, LIMITATIONS, AND CONCLUSION

The first objective of this study was to investigate the possible differences in Latino college students based on documentation status (stable or unstable) and immigrant status (immigrant or US born Latinos) through the measurement of risk factors, protective factors, and GPA. The current study found that immigration-related stress, grit, and college GPA significantly differentiated Latinos with unstable status from Latinos with stable status, as well as immigrants from US born Latinos. The prediction model was more stable when predicting group membership based on documentation status than based on immigrant status.

A further objective of this study was to determine which measured experiences of risk and resilience would predict level of immigration-related stress. The results indicated that, when immigrant status and documentation status were controlled for, cultural conflict and social status significantly and negatively predicted the level of immigration-related stress. Further, documentation status continued to significantly predict the level of immigration-related stress after cultural conflict and social status were included in the model. This study provides important suggestions about risk and resiliency among Latino college students. In addition, the appropriateness of the immigrations-related stress scale as a measure within this study was tested using exploratory factor analysis and the scale was found to be reliable and found to be measuring a single construct.

Immigration-related Stress Scale

This study was able to determine that the use of the immigration-related stress scale was appropriate with this sample, that the items appear to relate to the same construct, and that all the items included are important in measuring the construct. All items in this measure loaded on the same factor and provided a unified measure of a construct. This construct may be most relevant to students with unstable status, as the unstable status group had the highest mean in the immigration-related stress scale. It should also be noted that the majority of the sample of students with unstable status were students who had been approved for DACA qualification, and were still reporting a high degree of immigration-related stress. While DACA approval may result in increased rights, based on this study it does not appear to reduce the daily documentation-based concerns experienced. Immigration-related stress may affect many Latinos, regardless of documentation status, because of the relatively common mixed status family structure (Suarez-Orozco et al., 2011), as well as systemic and individual discrimination that affects many Latinos regardless of generation level or longstanding family history in the US (Romero, 2008).This measure may not adequately capture the stress experienced by Latinos who have concerns for family members or perceive discrimination based on others ascribing unstable status to them through stereotyping. The measure may be improved upon to capture a broader experience of immigration-related stress by including items that specify concerns for family members, and potentially through creating two versions of the scale. One version could focus on the experiences of immigrants and children of immigrants (2nd generation Latinos), while a second version

could focus on the experiences of third generation and later Latinos, a strategy used in previous scales for Latinos (Cervantes et al., 1991). The second version would need to focus more on the stress experienced due to perceived discrimination based on other's perception of the individual as having unstable status or being an immigrant. Such an approach would provide a more nuanced measurement of immigration-related stress and may perhaps lead to separate but correlated factors that encompass experiencing immigration-related stress.

Differences Based on Documentation Status

The results suggested that there is some difference in Latino college students based on their documentation status. In this case, documentation status was dichotomized into stable (guaranteed legal permanent residency in the US; US Citizens and Permanent Residents) and unstable (not considered legal US residents and either have no legal rights for US residency or have temporary rights that are highly regulated; DACA holders, temporary non-immigrant visa holders, and undocumented immigrants). Specifically, the variables of grit, GPA, and immigration-related stress were statistically significant variables in the prediction model. In this study, students with unstable status had a higher average GPA, experienced grit at higher levels, and reported immigration-related stress at higher levels than their peers with stable status. The results of this discriminant function analysis suggest that the statistically significant difference in grit, GPA, and immigration-related stress was effective in adequately identifying a participant as either having stable status or unstable status when looking at a combination of these three variables. The results partially supported the hypothesis that students with unstable

status will have higher indicators of academic achievement, which has been reported in research based on the immigrant paradox (Hill & Torres, 2010). Students with unstable status had a significantly higher college GPA, but the results were not significant for GT/AP class placement.

The results also support the hypothesis that students with unstable status would experience a higher degree of immigration-related stress. It should be noted that students with stable status, on average, did not report high levels of immigration-related stress. This is consistent with studies suggesting that immigration-related stress affects immigrants with unstable status (Contreras, 2009; Diaz-Strong & Meiners, 2007; Gonzales, 2011; Gonzales et al., 2013; Morales et al., 2009; Pérez & Fortuna, 2005; Sullivan & Rehm, 2005), but contradicts research suggesting that immigration-related stress affects Latinos with stable status (Arbona et al., 2010; Hall & Soli, 2010; Potochnick & Perreira, 2010). Immigration-related stress includes limitations because of existing legal barriers, concern for family members, experiences of discrimination, and self-identity problems. It may be that certain experiences are limited to those with unstable documentation status, while some other aspects of immigration-related stress are experienced by many Latinos. A more nuanced approach to this research may help further differentiate the experiences of immigration-related stress in the different documentation status groups.

Finally, there were no statistically significant differences in the measured risk and protective factors between the two groups, with the exception of grit or *ganas*. It may be that this was the only variable related because *ganas* has been identified as one

of the most important variables for academic achievement. *Ganas* was also found as a statistically significant predictor of academic motivation in a previous study with Latina high school students (Rodriguez et al., 2013). This was a surprising result, as the literature suggests that students with unstable status are expected to experience higher levels of risk and protection than those with stable status (Abrego, 2006; Alegria et al., 2008; Bacio et al., 2013; Contreras, 2009; Dumont & Provost, 1999; Enriquez, 2011; Gildersleeve & Ranero, 2010; Gonzales, 2010, 2011; Hill & Torres, 2010; Perez et al., 2009; Schwartz et al., 2010). Despite this, these results do provide partial support for the hypothesis that students with unstable status would have a resiliency profile. Qualitative studies with undocumented students suggest that undocumented students in college possess a unique level of resilience, which is deemed necessary for their success given the number of barriers they encounter throughout their development (Abrego, 2006; Contreras, 2009; Enriquez, 2011; Gildersleeve & Ranero, 2010; Gonzalez, 2010; 2011; Perez et al., 2010). According to a previous study, being academically exceptional and resilient differentiates "college goers" from "early exiters" within the undocumented high school population (Gonzalez, 2011). Some data suggests that academic success and resilience allows certain students to get noticed, which leads to aid from teachers and mentors as they navigate their way to college (Gonzalez, 2010; 2011). The results of this study provide a partial picture of resilience for the students with unstable status. The students are experiencing stress at a higher level (a risk), have higher levels of grit (a protection), and are showing good academic outcomes (mean college GPA=3.34) and resilience. This study contributes quantitative data to the suggestions of qualitative

studies that resilience may be more necessary for Latinos with unstable status to experience success than it might be for Latinos with stable status.

Differences Based on Immigrant Status

The results of the discriminate analysis based on immigrant status show a similar pattern to the results based on documentation status. College GPA, grit, and immigration-related stress contributed to the functions ability to differentiate group membership at a statistically significant level. Immigrant college students had a higher college GPA, reported higher levels of grit, and had a higher degree of immigration-related stress than US born Latino college students. Again, the results partially supported the hypothesis that immigrant students would have higher academic achievement, reflected through college GPA but not number of GT/AP classes, a result suggested by the immigrant paradox (Hill & Torres, 2010).

Immigrant students showed a higher degree of immigration-related stress, confirming the hypotheses, but again, it should be noted that US born Latino students did not report high levels of immigrations-related stress as it was measured by this scale, which contradicts studies suggesting that immigration-related stress may be relevant to US born Latinos through perceived discrimination or concern for family members (Hall & Soli, 2010; Romero, 2008; Yoshikawa & Kalil, 2011). Examining the data based on immigrant status suggests that immigrants, regardless of documentation status, experience immigration-related stress. This provides support for previous research citing immigration-related stress for many Latino immigrants, with or without stable documentation status (Arbona et al., 2010; Hall & Soli, 2010; Potochnick & Perreira,

2010). It may be that immigrant-related stress in the way it was measures in this study is a factor for Latino immigrants, but not for US born Latinos. This result will be further discussed in the limitations section.

Finally, based on the results of this study, grit, a protective factor, was the only variable experienced at a significantly different level for Latino immigrant college students. Again, this was a surprising result because of previous research providing support for the immigrant paradox and suggesting a high level of resilience in immigrant students (Alegria et al., 2008; Bacio et al., 2013; Hill & Torres, 2010; Schwartz et al., 2010). It was expected that immigrant students would have a higher level of several risk and protective factors, not just grit. The results of the analysis, however, do still provide partial support for the immigrant paradox (Alegria et al., 2008; Bacio et al., 2013; Hill & Torres, 2010; Schwartz et al., 2010). That is, the immigrant students in the current study reported greater experiences of stress, yet also reported higher levels of grit and better academic outcomes, which suggests a higher level of resilience among immigrant Latino college students, though with limited variables.

Conclusions Based on Combined Results

Qualitative research, along with research in the sociological and political science fields, outlines the legal barriers and limitations that result from having unstable status (Abrego, 2006; Contreras, 2009; Enriquez, 2011; Gildersleeve & Ranero, 2010; Gonzalez, 2010; 2011; Perez et al., 2010). A few studies have shown a higher degree of mental health concerns in undocumented individuals (Diaz-Strong & Meiners, 2007; Gonzales et al. 2013; Morales et al., 2009; Perez & Fortuna, 2005; Potochnick & Pereira,

2010; Sullivan & Rehm, 2005), whereas other studies suggest that immigration-related concerns affect many Latinos, regardless of documentation status (Fix & Zimmerman, 2001; Hall & Solli, 2010; Romero, 2008; Yoshikawa & Kalil, 2011). While this study suggests that immigration-related stress is limited to immigrants and may be even higher among those with unstable status, immigration-related stress may affect many Latinos, regardless of documentation status, because of the relatively common mixed status family structure (Suarez-Orozco et al., 2011), and systemic and individual discrimination that affects many Latinos (Romero, 2008). More research is needed in this area to provide more consistent results in the future.

The predictive model showed more stability in classifying the samples based on documentation status by being able to accurately predict stable status 76% of the time, and unstable status 73% of the time, as indicated by repeated measures of this predictive model using cross-validation through a jack-knife procedure. It showed less consistency when differentiating between immigrant and US born Latinos, 84% and 58% respectively, as indicated by the cross validated results. While the model showed the most overall accuracy in differentiating between stable and unstable status, it was most accurate in predicting immigrant status specifically. This suggests that the model best differentiates based on documentation status, and the difference seen in the two samples may be best explained due to differences in documentation status. In other words, the immigrant group contains individuals with stable and unstable documentation status, and the presence of those with unstable status may be inflating the results. The fact that documentation status was not accounted for in this model may have led to incorrect

assumptions regarding the experiences of immigrants in this country, which may have led to the decreased stability in this model when compared to the model focused on documentation status. This highlights the importance of including documentation status as a variable in studies in which immigrants are included, and may partially account for the inconsistent results in studies that have examined the immigrant paradox (Algeria et al., 2008; Crosnoe, 2012; Marks et al., 2014; Palacios et al., 2008).

These findings also provide some tentative suggestions that Latino college students with unstable status may have higher indicators of resiliency than even Latino immigrant college students. This is consistent with a qualitative study that found undocumented Latino high school students to be more anxious and report experiencing more barriers than immigrant Latino students from the same neighborhood, as well as a study suggesting that concerns over immigration resulted in reporting more expected barriers for one's education (Abrego, 2006; McWhirter et al., 2013).

Factors Affecting Immigration-related Stress

The data suggest that immigration-related stress might be most related to one's documentation status. In this study, prior to measuring the effects of the risk and protective factors, documentation status and immigrant status were controlled for in the analysis. In the first step, 27% of the variance was accounted for by documentation status alone; immigrant status was not a statistically significant predictor. Once all variables were included in the second step, documentation status continued to be a statistically significant predictor of immigration-related stress and had the most

predictive power. While documentation status is an important variable in explaining immigration-related stress, it is not the only contributing variable.

Of the risk and protective factors measured, cultural conflict was the only statistically significant predictor of immigration-related stress. In this case, low cultural conflict protected against experiencing immigration-related stress, while the opposite increased the risk of experiencing immigration-related stress. This variable increased the variance accounted for in immigration-related stress to 38%, a statistically significant amount. This suggests that documentation status is not sufficient in explaining the level of immigration-related stress, and that an integrated cultural identity can protect against the immigration-related stress experienced by immigrants with unstable status. While there is not direct support for this conclusion in the literature, research on acculturation informed this conclusion.

Higher cultural conflict may be an internal process present during acculturation, as the individual is becoming bicultural (Benet-Martinez & Haritatos, 2005). Cultural conflict refers to having difficulty integrating two cultures (the dominant culture and the culture of origin) in a harmonious and fluid manner (Benet-Martinez & Haritatos, 2005; Haritatos & Benet-Martinez, 2002). The ability to fluidly integrate two cultures has been identified as a protective factor referred to as fluid biculturalism (Benet-Martinez & Haritatos, 2005; Kim-Cohen, 2007). At the same time, the process of becoming bicultural can involve an internal struggle and create risk, as the indvidual may have difficulty learning to balance the values of two distinct cultures (Romero & Roberts, 2003). It may be that experiencing high levels of immigration-related stress relates to

difficulty in integrating the host culture and the culture of origin, as the individual may have difficulty feeling accepted by the mainstream culture while retaining some values of the heritage culture. In other words, how can an indvidual begin to integrate two separate cultures in a harmonious manner while feeling excluded from one of those cultures? Experiencing immigration-related stress suggests that one feels excluded and unwanted by the dominant culture. Arbona et al. (2010) found fear of deportation as uniquely contributing to extrafamilial acculturative stress, while other studies have found that immigration challenges as a group contribute to extrafamilial acculturative stress (Chavez, 1991; Hagan, Ramos, Capps, & Kabiri, 2003; Simich, 2006).

Limitations and Future Directions

One limitation in this study is that the data was collected during a single point in time. The cross-sectional nature of the data collection does not allow for the establishment of causal relationships, and only allows for the measurement of the relationship amongst the variables. In addition, a regression model does not account for error variance as accurately as a structural equation model. Due to the hidden nature of the population, a regression model is preferred because of the consideration for sample size. In addition, the sample size in this study is a limitation because of the variation in documentation and immigrant status. Another limitation related to the sample size is that the current study did not have enough power to compare the experience of only immigrant Latino college students based on documentation status. Finally, because of the sample size, it was not possible to run cross-products of the risk and protective factors to test for possible interaction effects within the variables. Future research should

replicate this study using structural equation modeling and a larger sample size for a more powerful analysis. This would allow for a more direct examination of the theorized relationships. Using SEM analysis to replicate the model with a sample of Latino immigrant students with unstable status and then with a sample of Latino immigrant students with stable status would help further develop the differences found in the population based on documentation status.

Additionally, data was collected through recruitment of students participating in college-organized groups that focus on advocacy for undocumented students and on supporting the DREAM act. The civic engagement nature of these groups may have led to differences in the sample that affects the results of the data. Studies have found that civic engagement is a source of protection for undocumented students (Morales et al., 2009; Perez et al., 2010). A future study should replicate the current study, but include civic engagement as a protective measure; qualitative research suggests that this is an important factor in building resiliency. This study also did not differentiate between US born Latino students based on generational status (e.g., separate 2nd generation from 3rd generation and beyond). Having this information may have been helpful in determining how immigrant-related stress may decrease with each generation. Finally, this study did not measure academic performance as an outcome variable. Future studies should focus on academic measures as an outcome, as immigration-related stress, risk, and protective factors may affect academic outcomes.

Further, the data were collected between November 2014 and March 2015, a time-point in which in-state college tuition for undocumented immigrants who lived in

Texas was being threatened by the Texas state legislature. Many students in this group were well aware of the legal limitations that immigrants and students with unstable status faced at this time, which may have led to cohort effects in the results of the study (Cozby, 2009). For example, students with unstable status, the ones who would be affected by this law, may have been experiencing an increased level of immigration-related stress at the time of data collection, thus altering the results of immigration-related stress scale. Future studies should replicate this method during less turbulent legal periods to compare results with the current study and account for the potential of cohort effects.

Another limitation is that the current sample was restricted to Latinos at four-year colleges. Future studies should include Latino students at different levels of education to better capture the population and increase the accuracy of predicted relationships. As it has been suggested by many studies and throughout this document, it may be that immigrant students and students with unstable status may be uniquely resilient at the college level. A study at different levels of education would help further understand the theory that only the most resilient Latino immigrants reach the collegiate level. Future research should focus on immigration-related stress and resiliency in a longitudinal method among students with unstable status. This would aid in better understanding the developmental trajectory of immigration-related stress in this specific population, as qualitative research suggests that undocumented college students experience an identity development process that results in an increase in experience of immigration-related stress (Gonzales, 2011).

In addition, the variability in documentation status and generational status may provide only a broad view of the Latino population. Future studies would benefit from measuring purer versions of these different groups to determine unique relationships. An important future study should focus on how documentation status affects the experiences of immigrant Latino college students only, and exclude nonimmigrant Latino college students. Such a study may help better understand the immigrant paradox. Related to this limitation, the immigration concerns measured may not be relevant to US born Latino students, especially those who have US born Latino parents. They may not be from mixed status families and may not perceive discrimination based on documentation assumptions of others.

In this study, the immigration-related stress scale showed some promise as a measure through its high alpha value and the relationship it had with documentation status. Research with undocumented students is often limited because of ethical considerations and possible harm of asking individuals to report on their documentation status (Lahman, Mendoza, Rodriguez, & Schwartz, 2011). Future studies should focus on validation of this measure as the scale may prove to be an adequate replacement to direct questions of documentation status.

Some studies have found that the incidence of adjustment disorders, anger problems, depression, and anxiety are higher among undocumented immigrants (Cavazos-Rehg et al., 2007; Potochnick & Perreira, 2010). It may be that the high levels of immigration-related stress create an environment that facilitates the development of mental health disorders and worsens other sources of environmental stress. For example,

one study found lower family cohesion among recent Latino immigrants when undocumented status and acculturative stress were present in the family unit (Dillon, De La Rosa, & Ibanez, 2013). It would be important to further investigate this relationship within a resiliency framework to better understand mental health within this population.

Finally, a limitation of this study that should be accounted for in future studies is the lack of focus on unique cultural variables in the Latino population. It is important to understand how unique cultural values may play a role in resiliency. Future studies should include measures of Latino culture and values to determine how this relates to resiliency, academic outcomes, and immigration-related stress in Latino immigrant populations.

Clinical Implications

Practitioners, such as psychologists working at college counseling centers, may benefit from considering the effects that immigration-related stress can have on the overall well-being of their Latino clients, as well as from considering documentation status as a separate identity from immigrant status. This could allow for provision of more culturally competent interventions. For example, grit, GPA, and immigration-related stress differentiated student with unstable status from students with stable status. This may be important for clinicians in terms of supporting the need for awareness of the documentation status of their clients, enabling them to consider these variables when working with students with unstable status. For example, clinicians may want to capitalize on potential grit and assess for immigration-related stress as this study suggests it is present to a high degree in these individuals.

In addition, practitioners working with Latino college students, such as those working at college counseling centers or as academic advisors, should be prepared to consider the multiple and intersecting identities of power and privilege that may affect the academic success and healthy development of their Latino college student clients. Some examples of this include the consideration of social status, documentation status, and ethnic identity on experiences of marginality and perception of barriers. Finally, it is important for practitioners to recognize the significance of resilience among Latino immigrants at both the college level and the high school level. Practitioners should focus on using protective factors as a form of strength and fostering resiliency to increase success when working with these clients.

Conclusion

Overall, this study provided some support for the immigrant paradox, as well as support for findings in qualitative research suggesting the necessity for Latinos with unstable status to be uniquely resilient in order to continue on to college. In addition, this study suggests that immigration-related stress may be unique to immigrant Latinos and may most strongly present in those with unstable status. Future studies should focus specifically on immigrant Latinos within the varying documentation status groups. It is important to note that an integrated cultural identity can protect against unstable documentation status as it relates to immigration-related stress. While this study did not measure mediation effects due to power limitations, future studies should focus on cultural conflict and social status as mediators.

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APPENDIX A

TABLES

Table A-1

Means and Standard Deviations for measured variables

Variable	*N*	*M*	*SD*
Immigration-Related Stress	95	3.24	1.35
Social Status	95	26.69	13.94
Cultural Conflict	95	3.37	0.97
Grit	95	3.44	0.61
Problem Solving	95	4.55	0.64
College GPA	95	3.17	0.59

Table A-2

Correlations among predictor variables, demographics, and outcome variables

	GPA	College Level	Gender	Immigrant Status	Documentation Status	Immigrant Distress	Social Status	Grit	Problem Solving	Cultural Conflict
GPA	--									
College Level	0.161	--								
Gender	-0.067	0.111	--							
Immigrant Status	0.311**	0.022	-0.293**	--						
Documentation Status	0.240*	0.033	0.002	0.696**	--					
Immigrant Distress	0.196	-0.137	-0.183	0.445**	0.498**	--				
Social Status	0.177	-0.025	-0.180	0.132	-0.158	0.080	--			
Grit	0.108	0.204*	0.247*	0.222*	0.264**	0.040	-0.002	--		
Problem Solving	0.001	0.241*	0.253*	0.057	0.123	0.063	-0.114	0.418**	--	
Cultural Conflict	-0.106	-0.025	0.204*	-0.037	0.090	0.257*	-0.204*	0.164	0.270**	--

** Correlation is significant at the 0.05 level (2-tailed)*

** Correlation is significant at the 0.01 level (2-tailed)

Table A-3

T tests for variables grouping by immigrant status

Immigrant status		*N*	*M*	*SD*	*t*	*df*	*p*
Gender	1	57	1.56	0.50	-3.14	91.97	0.002**
	2	38	1.84	0.37			
College Level	1	57	2.53	1.20	0.22	93	0.829
	2	38	2.47	1.11			
Social Status	1	57	28.18	14.20	1.21	93	0.204
	2	38	24.46	13.41			
College GPA	1	57	3.32	0.44	3.35	93	0.001***
	2	38	2.93	0.70			
Immigration Stress	1	57	3.73	1.19	4.79	93	0.000***
	2	38	2.51	1.25			
Cultural Conflict	1	57	3.34	0.96	-0.36	93	0.720
	2	38	3.41	0.99			
Grit	1	57	3.55	0.62	2.19	93	0.031*
	2	38	3.28	0.58			
GT/AP	1	38	0.53	0.51	-1.02	93	0.312
	2	57	0.63	0.49			
Problem Solving	1	57	4.58	0.66	0.55	93	0.583
	2	38	4.51	0.63			

1 = Immigrant 2= US born Latinos

** $p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$*

Table A-4

T tests for variables grouping by documentation status

Documentation Status		*N*	*M*	*SD*	*t*	*df*	*p*
Gender	1	55	1.67	0.47	-0.02	93	0.982
	2	40	1.68	0.47			
College Level	1	55	2.47	1.17	-0.32	93	0.750
	2	40	2.55	1.15			
Social Status	1	55	28.56	14.67	1.54	93	0.126
	2	40	24.13	12.59			
College GPA	1	55	3.04	0.65	-2.47	93	0.015*
	2	40	3.34	0.46			
Immigration Stress	1	55	2.67	1.33	-5.85	92.86	0.000***
	2	40	4.03	0.93			
Cultural Conflict	1	55	3.29	1.08	-0.87	93	0.386
	2	40	3.47	0.79			
Grit	1	55	3.30	0.57	-2.64	93	0.010**
	2	40	3.63	0.63			
GT/AP	1	55	0.58	0.50	-0.18	93	0.861
	2	40	0.60	0.50			
Problem Solving	1	55	4.48	0.65	-1.19	93	0.235
	2	40	4.64	0.63			

1 = Stable 2 = Unstable

** $p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$*

Table A-5

Hierarchical Linear Regression – Immigration-Related Stress –n = 95

Immigration-Related Stress						
Variable	*B*	*SE B*	*Beta*	*F/t*	*R^2*	*p*
Step 1				**16.71**	**0.27**	**0.000*** **
Documentation Status	0.992	0.330	0.370	2.94		0.004**
Immigrant Status	0.521	0.340	0.190	1.53		0.130
Step 2				**12.53**	**0.29**	**0.000*** **
Documentation Status	1.038	0.335	0.382	3.10		0.003**
Immigrant Status	0.245	0.369	0.089	0.66		0.509
Years in US	-0.045	0.025	-0.184	-1.82		0.072
Step 3				**7.73**	**0.38**	**0.000*** **
Documentation Status	1.158	0.345	0.426	3.35		0.001***
Cultural Conflict	0.385	0.125	0.277	3.08		0.003**
Immigrant Status	0.278	0.371	0.102	0.75		0.455
Grit	-0.320	0.212	-0.146	-1.51		0.135
Problem Solving	0.031	0.200	0.015	0.16		0.875
Years in US	-0.033	0.024	-0.135	-1.38		0.171
Social Status	0.016	0.009	0.170	1.83		0.071

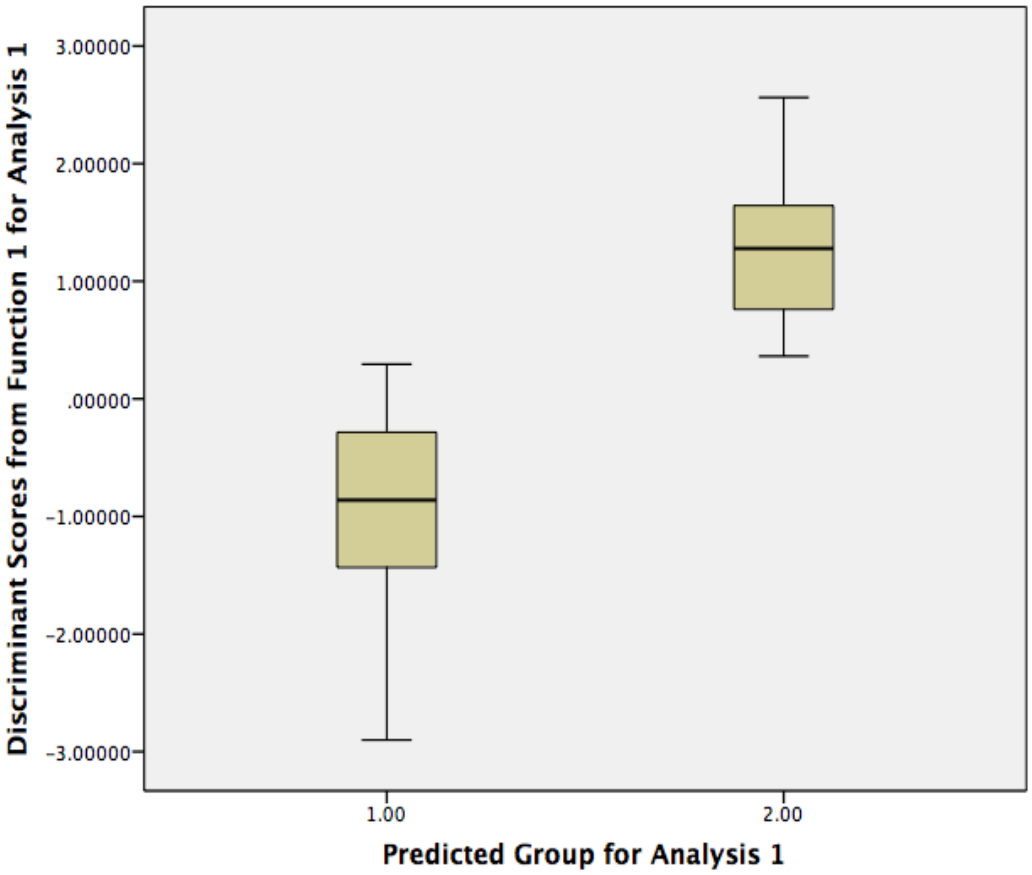
** $p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$*

APPENDIX B

FIGURES

Figure B-1

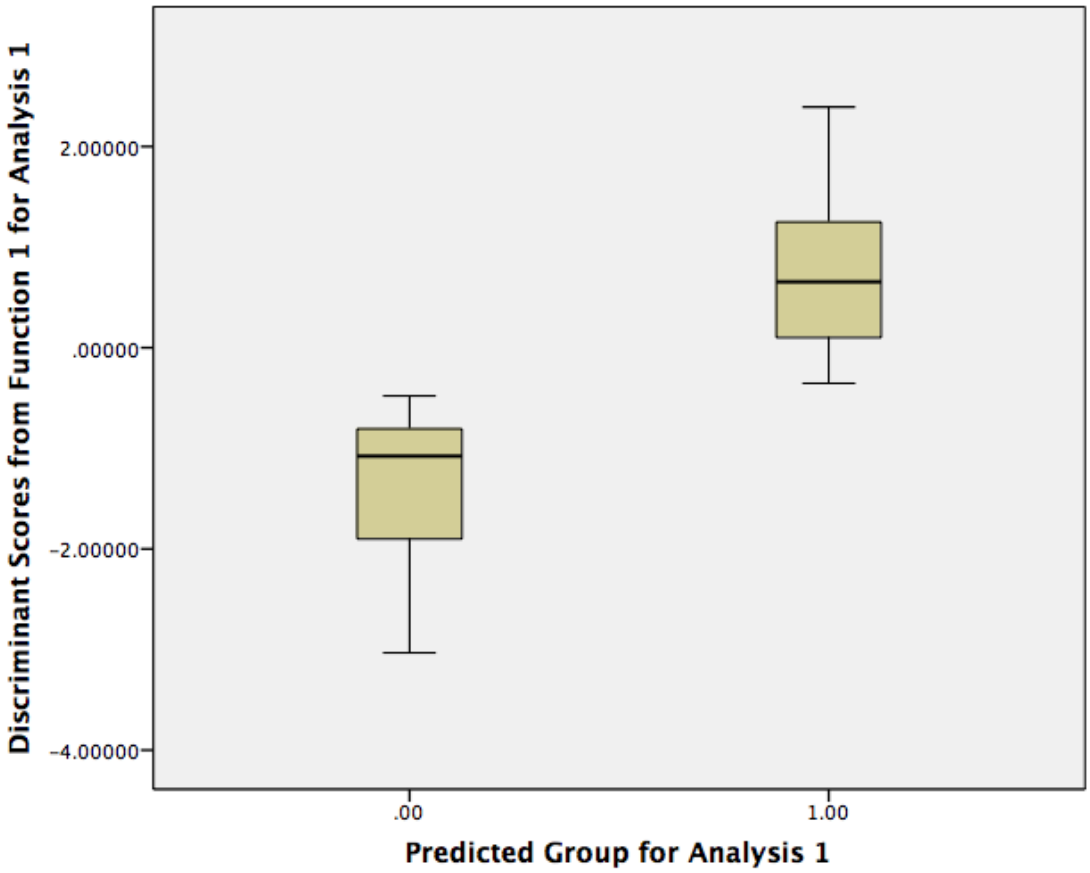
Graphic representation of predicted group membership for documentation status



1=stable status, 2=unstable status

Figure B-2

Graphic representation of predicted group membership for immigrant status



0 = US born Latinos, 1 = immigrant